

# MICHAEL DUTEAU

SKILLED SOFTWARE  
ENGINEERING  
GRADUATE

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## SKILLS

### Programming Languages:

Java, C++, C, Python, HTML, CSS, JavaScript

### Database Technology:

SQL, MongoDB, Amazon DynamoDB

### Tools:

Microsoft Visual Studio, Visual Studio Code, GitHub, Amazon Web Services (AWS), Eclipse IDE, Node.js, Express.js, AngularJS

### Data Analysis:

NumPy, Matplotlib, Pandas

## EDUCATION

### B.S. in Computer Science

Southern New Hampshire University | Manchester, NH  
Software Engineering Concentration

Graduated: Aug 2024

GPA: 3.89

## HONORS & AWARDS

### President's List

Southern New Hampshire University  
January 2022 - August 2024

## PROJECTS

### Video Game Companion Application Prototype using C++

Dec 2023 - Present

<https://github.com/m-duteau/DS3BuildTracker/tree/added-build-module-prototype>

- An ongoing companion application for the video game Dark Souls 3 that stores weapons, armor, spells and their associated attributes as structs that populate vectors using data stored within curated CSV files.
- Implemented an iteration of the Build Saving module where the program will save a collection of weapons to a Build struct to populate a Build vector that is exported as a TXT file so that it may be easily accessible across different devices.
- Planned future iterations will also include armor and spells within the Build Saving module and considerations are being made to convert the project to a C# ASP.NET Core web application for greater accessibility and functionality.

### Node.js Chatbot for Twitch Streaming with Audio Player and OpenAI Integration

Dec 2024

<https://github.com/m-duteau/nodejs-chatbot>

- Node.js application runs locally to monitor Twitch user's channel chatroom for command phrases and respond appropriately by either sending a response chat message, playing an audio file, or sending a request to OpenAI API.
- Bot.js script utilizes audio\_player.py code to locate a locally stored .mp3 file and play the file using Python's playsound module, serving as an interactive soundboard for chatroom members.
- Bot.js also holds a function that accesses the OpenAI API. The user can determine the behavior of the OpenAI responses to simulate a helpful/entertaining bot assistant that chatroom members can interact with.

## ACADEMIC PROJECTS

### Full Stack Application using MEAN

Jun 2024

<https://github.com/m-duteau/CS465-fullstack>

- Converted a static HTML web page into a Single Page Application by implementing Angular and MongoDB.
- Designed a backend component enabling administrative users to edit database entries.
- Implemented API endpoints (GET/PUT/POST/DELETE) in order to facilitate better manipulation of the database and its contents.

### Binary Search Tree using C++

Aug 2023

<https://github.com/m-duteau/CS300-DSA>

- Developed a binary search tree from scratch using C++, ensuring operations such as insertion, searching, and inorder traversal are efficiently handled and improved best case search time complexity from  $O(n)$  to  $O(\log(n))$  compared to Vector searching.
- Developed a function to read CSV files containing data that is used to populate the tree.
- Constructed a project document including pseudocode for Hash Table and Vector sorting, as well as justification for why a Binary Search Tree was the best solution for the given requirements.